

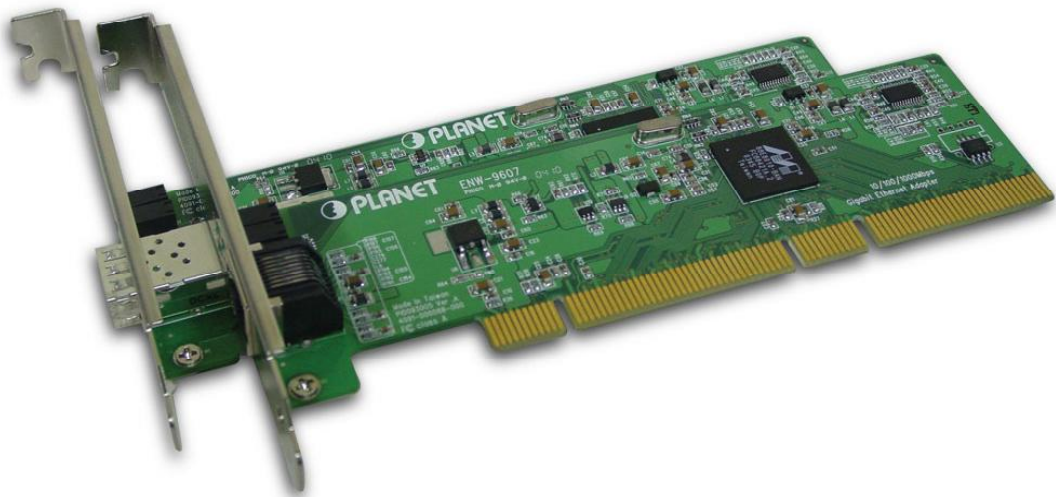


64-bit PCI Gigabit Ethernet Network Adapter

ENW-9607/9607M

User's Manual

Version 1.0



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FCC Caution

To assure continued compliance. (example-use only shielded interface cables when connecting to computer or peripheral devices). Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the Following two conditions: (1) This device may not cause harmful interference, and (2) this Device must accept any interference received, including interference that may cause undesired operation.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

Revision

User's Manual for PLANET 64-bit PCI Gigabit Ethernet Adapter

Model: ENW-9607/9607M

Rev: 1.0 (May, 2004)

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Chapter 1 Introduction

The ENW-9607 is a 64-bit 10/100/1000Base-T PCI 2.2 Gigabit Ethernet adapter designed to address high-performance system application requirements. The ENW-9607M provides a SFP, mini-GBIC interface. It can be attached with 1000Base-SX or 1000Base-LX mini-GBIC modules, depending on the practical applications.

Using PCI 2.2 compliant PCI specification and 32/64-bit interface, the ENW-9607/9607M supports both current 32-bit motherboards and also the interface and operating systems of the next generation, future-proofing your investment. Lower TCO (Total Cost of Ownership) yet with high performance, the ENW-9607/9607M is now the choice of your network data server or just right for your powerful desktop PCs.

1.1 Package Content

Check that your package contains the following items:

- ü 1 x ENW-9607/9607M
- ü 1 x Quick Installation Guide
- ü 1 x CD-ROM

Please contact the seller if any of the items is missing or damaged.



Note:

Be sure to retain your proof of purchase, as it is required to receive warranty service.

1.2 Features

- Ø Compliant with PCI 2.2 specifications
- Ø Supports full wire-speed Gigabit Ethernet rate
- Ø ENW-9607 supports 10/100/1000Mbps auto-negotiation for optimal connection
- Ø ENW-9607M supports 1000Base-SX/LX mini-GBIC modules
- Ø Internal FIFOs and external memory buffers maximize throughput by minimizing retransmissions when connected to multiple clients under heavy load
- Ø Jumbo frame support
- Ø IEEE 802.1p priority queuing support
- Ø IEEE 802.3x Frame-based flow control and duplex operation
- Ø ENW-9607 supports WOL (Wake on LAN)
- Ø ENW-9607 supports Marvell Virtual Cable Tester (VCT) for advanced cable diagnostic function

1.3 Verifying Your System Requirements

Before installing the ENW-9607/9607M, be sure your computer meets the following requirements:

Hardware

- ü CPU: 300MHz or Faster
- ü RAM: 64MB (Minimum)
- ü PCI Local Bus 2.1 or 2.2 compliant

Software

- ü Microsoft Windows 98/Me/NT/2000/XP/Server 2003
- ü Linux
- ü Novell 4.x / 5.x / 6.x

1.4 Gathering Tools And Documentations

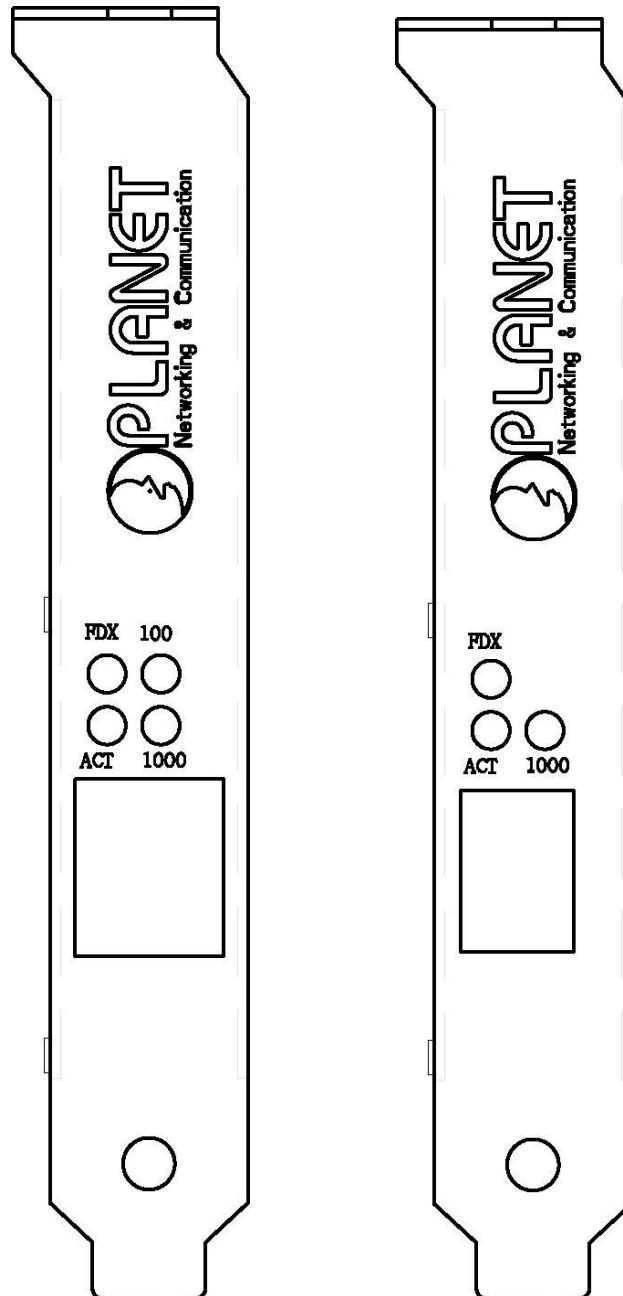
To install the adapter, you need the following items:

- ü A suitable screw driver
- ü Your operating system documentation
- ü Your system unit documentation, including any service documentation

Chapter 2 Hardware Installation

2.1 LED definitions

The faceplate of ENW-9607 has four LEDs: 100, 1000 FDX and ACT. And ENW-9607M has three LEDs: 1000, FDX and ACT. The pictures below have showed the faceplate of ENW-9607 and ENW-9607M. Table 2-1 and 2-2 explain the function and state of the LEDs.



Faceplate of ENW-9607 and 9607M

LED	Description
100 / 1000	Off/Off: Works with 10Mbps On/Off: Works with 100Mbps Off/On: Works with 1000Mbps
FDX	Off: Works in Half-Duplex mode On: Works in Full-Duplex mode
ACT	Blink: Transmitting or receiving data through the LAN

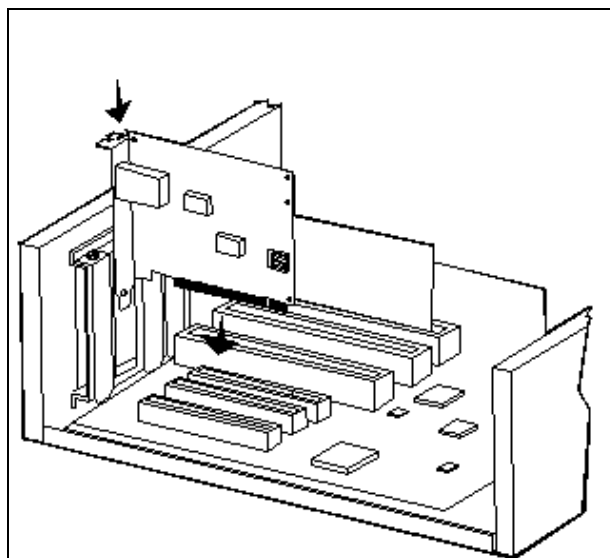
Table 2-1 Descriptions of ENW-9607 LEDs

LED	Description
1000	Off: The connection is not established. On: The connection is not established.
FDX	On: Works in Full-Duplex mode
ACT	Blink: Transmitting or receiving data through the LAN

Table 2-2 Descriptions of ENW-9607M LEDs

2.2 Hardware Installation

- Step 1: Turn off the PC.
- Step 2: Remove any metal decorations from your hands and wrists.
- Step 3: Remove the cover from your PC.
- Step 4: Locate an empty, non-shared bus mastering PCI slot and remove the corresponding back plate. Save the screw for use in Step 6.
- Step 5: Carefully insert the adapter into the chosen slot and press firmly with proper push to ensure it is fully seated in the slot.



- Step 6: Secure the adapter with the screw you saved in step 4.

Step 7: Replace the PC cover.

Step 8: Power on the PC and refer to next chapter to install the driver of this adapter.



Note:

Please do not install the ENW-9607/9607M in a shared PCI slot. Avoid any PCI slot next to an ISA slot because this is often a shared slot and does not support bus mastering. You may refer to the mainboard manual to know which PCI slot share the resource with AGP slot and avoid using it as well.

Chapter 3 Driver Installation

A device driver must be installed before your ENW-9607/9607M can be used with your computer. This chapter describes how to install the driver for various operating systems. Before you begin the driver installation process, make sure you have the installation disks for your computer's operation system nearby. The driver installation below is for ENW-9607M, which is similar for ENW-9607. They have to install with different driver, please make sure your have select correct file during the installation.

3.1 Installing Driver To Windows 98 / Me / 2000

Make sure the ENW-9607M has been successfully inserted in your computer before you start to install the driver. If this is the first time you install the ENW-9607M into your computer, Windows will automatically detect it and updates the hardware information database. To install the driver provided, please follow the steps below:



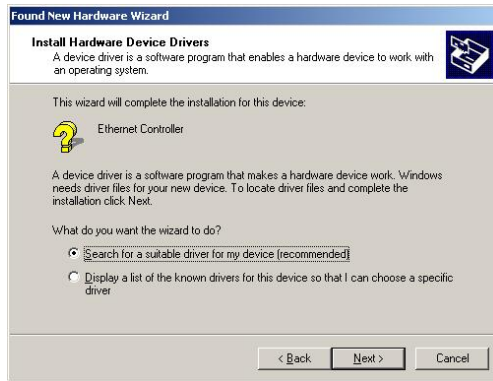
Note:

The following installation operates under Windows 2000. Procedures will be similar to Window 98/Me.

1. Install ENW-9607M into your PC's PCI slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Windows will automatically detect ENW-9607M and ask the user to install driver. Please click "Next".



4. Please select the first option and click "Next" to continue.



5. Select "Specify a location" and click "Next".



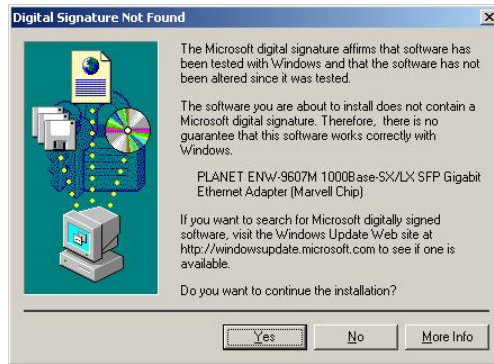
6. You can click "Browse" to specify the driver location. (Assume "E" is your CD-ROM drive, the driver can be found in E:\Drivers\ENW-9607MWin2000). Please click "OK" to continue.



7. Windows will show this screen to prompt you that it finds a driver for the device you are installing, please click "Next" to continue.



8. Windows may prompt you this driver is not digitally signed by Microsoft. If the device name is correct, please press "Yes" to continue.



9. Please click “Finish” to complete the driver installation.



(In Win98/Me, Windows will ask you restart your PC when driver installation finished.)

3.2 Installing Driver To Windows XP / Server 2003



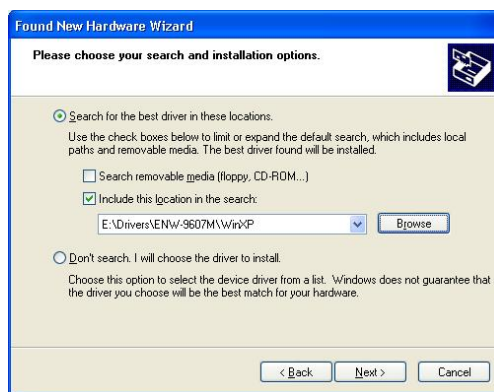
Note:

The following installation operates under Window XP. Procedures will be similar to Window Server 2003.

1. Install ENW-9607M into your PC's PCI slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Windows XP will detect ENW-9607M and ask you to install driver. Please select the second option and click “Next”.



4. Please select "Include this location in the search" and then click "Browse" to specify ENW-9607M driver location to install. (Assume "E" is your CD-ROM drive, you can find ENW-9607M driver in E:\Drivers\ENW-9607M\WinXP). Please click "Next" to continue.



5. WinXP will show you this dialog box to prompt you the driver is not digitally signed by Microsoft, please press "Continue Anyway" to continue.



6. Please click "Finish" to complete the driver installation.



3.3 Installing Driver To Windows NT

1. Install ENW-9607M into your PC's PCI slot.
2. Power on the PC and insert Driver Disk into CD-ROM drive.
3. Click START -> SETTINGS -> CONTROL PANEL -> NETWORK.
4. Select ADAPTERS.
5. Click "ADD" button.
6. Select "HAVE DISK".
7. Assume "E" is the CD-ROM drive. Enter the path as "E:\Drivers\ENW-9607M\WinNT.
8. Click OK.
9. Select the "PLANET ENW-9607M 1000Base-SX/LX SFP Gigabit Ethernet Adapter (Marvell Chip)" entry that matches your adapter.
10. Click OK.
11. Select the appropriate configuration.
12. Click OK.
13. Restart your system.



Note:

We strongly recommend you to install the latest Windows NT4 Service Pack AFTER successful installation of the driver

3.4 Installing Driver To Linux

1. Login as 'root'.
2. Unpack the driver installation package using the command

```
# tar xfvj install-???.tar.bz2
```

or

```
# bunzip2 -c install-???.tar.bz2 | tar xfv -
```
3. To start the driver build process, go to the directory DriverInstall

and start the build process with the following command:

```
# cd DriverInstall
```

```
# ./install.sh
```

4. Choose your favorite installation method.
5. The driver will be compiled and installed.
6. Please restart Linux system.

3.5 Installing Driver To Novell 4.x

1. Update NBI.NLM, NEB.NLM, MSM.NLM, and ETHERTSM.NLM in the SYSTEM directory of the server to the latest versions available for NetWare 4.20 (working versions are provided with this driver).
2. Usually you should install the latest support pack from Novell. If it is not possible to upgrade these NLMs before driver installation (e.g. if no workstation is connected or you are installing a NetWare 4.20 server), you may also 'outcomment' the 'OF:' line in YUKONNW.LDI ('OF' means 'Other Files' that need to be copied during installation).
3. Please provide INSTALL with the full path to the LAN driver (after pressing <INSERT>). If you do not want to replace some of these files, press <ESC> when you are asked if the existing file should be saved. You should also copy NBI.NLM to the directory where SERVER.EXE resides (normally C:\NWSERVER).
4. Install the driver YUKONNW.LAN for NetWare v4.20 via INSTALL.NLM. The installation support file YUKONNW.LDI is used to install the driver. If you are not certain how to use this NLM, please refer to its (printed) documentation or use the online help.

3.6 Installing Driver To Novell 5.x / 6.x

1. If the adapter is installed into the machine, NetWare will detect the new adapter and try to install a driver. Press <ENTER> to get a list of all available drivers and then press <INSERT> to install an unlisted driver. Enter the path to the driver and select YUKONNW.LAN. Choose "Yes" to copy the driver to the server. NetWare will now install the driver.
2. Once the driver has been installed, the adapter parameters or bindings can be changed in the AUTOEXEC.NCF file using the NWCONFIG tool.

Chapter 4 Utility

ENW-9607 is VCT Technology supported. The Virtual Cable Tester(TM) installation package contains the Marvell Virtual Cable Tester(TM) application. This utility can help user to diagnose the cable status and verify the cable length.

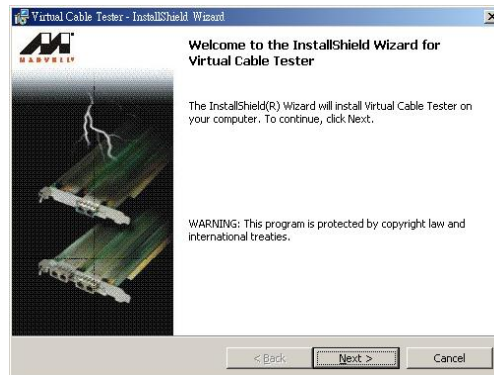


Note:

The Marvell Virtual Cable Tester(TM) can only be used on Windows 2000 and Windows XP.

4.1 Installation Instructions

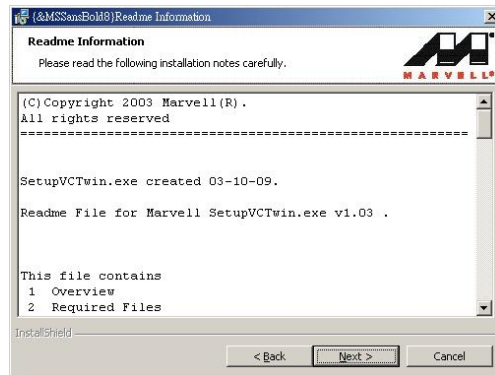
1. Run "setupVCT.exe" under "E:\Utility\VCT" directory. Or click the "Start" button and choose "Run", enter "E:\Utility\VCT\setupVCT.exe" to the dialog box (Assume "E" is your CD-ROM drive). You will see the dialog box as below. Please click "Next" to continue.



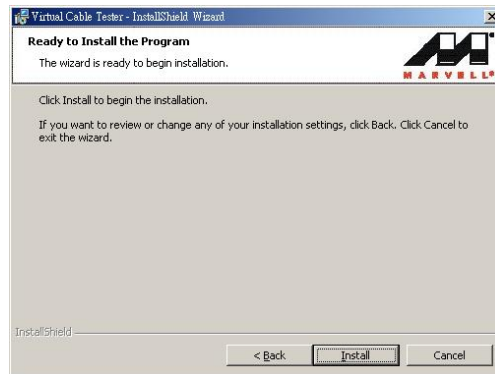
2. Please select the first option "I accept the terms in the license agreement" and click "Next" to continue.



3. Please check the installation note and click “Next” to continue.



4. Please click “Install” to begin the installation.

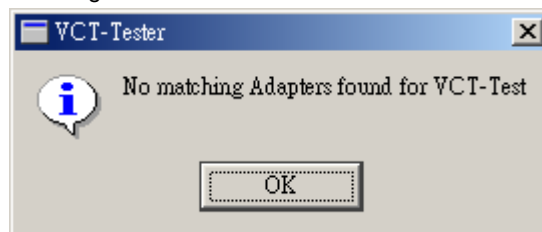


5. Please click “Finish” to complete the utility installation.



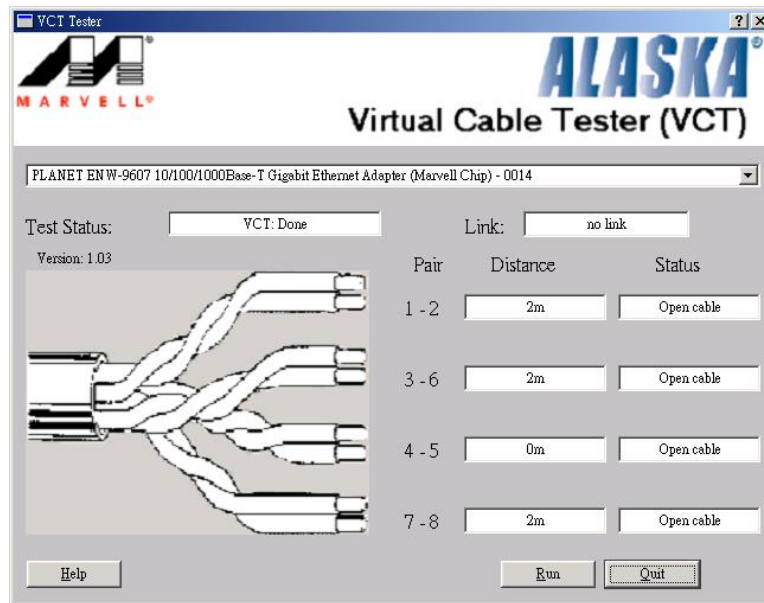
4.2 Utility Operating

After installation, you can find the utility in “Start” => “Programs” => “Marvell” => “Virtual Cable Tester”. Please click “Virtual Cable Tester” option to start. If you see the dialog box as below, please make sure you are using ENW-9607 and the card had been install to your PC properly.



When the utility starts, you will see the screen as below. If you install two or more ENW-9607 to

your PC, please select the card you want to test in the first field. Then click “Run” button to test the cable status of selected ENW-9607.



Chapter 5 Specifications

Model	ENW-9607	ENW-9607M
Standards	IEEE 802.3 IEEE 802.3u IEEE802.3ab	IEEE802.3ab
Connectors	RJ-45	Mini-GBIC
LEDs	100 / 1000 / FDX / ACT	1000 / FDX / ACT
Cabling Requirements	4-pair, Category 5 Category 5 enhanced	Depends on the mini-GBIC module installed
Speed	Half duplex mode: 10/100/1000 Mbps Full duplex mode: 20/200/2000 Mbps	Full duplex mode: 2000 Mbps
Bus Type	PCI 2.1/ 2.2	
Protocol	CSMA/CD	
OS Supported	Windows 98/Me/NT/2000/XP/Server 2003 Linux Novell 4.x / 5.x / 6.x	
Dimensions	120 mm x 22 mm X 120 mm (L x H x W)	
Weight	55 g	
Operating Temperature	0° to 40°C (32° to 107°F)	
Storage Temperature	-40° to 70°C (-40° to 158°F)	
Operating Humidity	20% to 95% relative humidity, non-condensing	
Storage Humidity	20% to 95% relative humidity, non-condensing	
EMC Certification	FCC Class A, CE	

Appendix A Advanced Properties

The default settings of the adapter should work in most cases. However, if you experience any unusual circumstances during your installation, these settings may help you to trouble shoot the adapter. Do not change any of these settings without a thorough understanding on your network. The following table briefly explains the function of each property.

Parameter	Description	Value
802.1p Support Port A	The IEEE 802.1P signaling method is used for traffic prioritization at OSI Reference Model Layer 2. It is implemented in network adapters and switches for best-effort Quality of Service (QoS).	Off (default) On
Log Status Messages	This parameter specifies the messages, which are to be logged in the Event Log.	All Messages Errors None Status Messages (default) Warnings
Maximum Frame Size	Specifies the maximum frame size in bytes that the driver will support. The performance of your network usually increases when a large packet size is used. Do not use values larger than 1514 if you are not sure the network structure supports jumbo frames.	12-9014 (default: 1514)
Media Type	Specify the link speed of the adapter. For ENW-9607M, this option is fixed to Autosense.	100Mbps Full Duplex 100Mbps Half Duplex 10Mbps Full Duplex 10Mbps Half Duplex Autosense (default)
Network Address	Allow the user to configure the network address of the adapter.	Not Present
Number Of Receive Buffers	Defines the number of receive buffers allocated by the driver. If the system does not have enough resources, the driver will fail to load. Increasing this value may improve performance.	3-500 (default: 50)
Number Of Transmission Buffers	Defines the number of transmit buffers allocated by the driver. If the system does not have enough resources, the driver will fail to load. Increasing this value may improve performance.	4-500 (default: 50)
Wake Up Capabilities	Specify which method is using to activate the Wake-On-LAN capability. It is only available on ENW-9607.	Link Change Magic Packet Magic Packet and Pattern Match (default) None OS Controlled Pattern Match